

COMET ECM-20WF



In-Target Probe (ITP) Emulator for the Intel® Pentium® 4 Processor

Welcome to American Arium's state-of-the-art family of COMET in-target probe (ITP) emulators. COMET products offer exceptional visibility to the target operation. Our COMET ECM-20WF ITP provides real-time run control and superb event and trigger manipulation, including accurate breakpoint capabilities on the processor, giving you a robust tool for pinpointing and eliminating low level software hangs. It also features instruction trace visibility and, with a direct link to your network via a TCP/IP connection, significantly faster data communication. In addition to including all the features you would expect to find in any professional debugging tool, American Arium's COMET ECM-20WF incorporates additional companion technology to further improve debug time, helping you complete your project on schedule and within budget.

The COMET ECM-20WF is a low-cost run control emulator that combines ease-of-use with a sophisticated feature set to debug BIOS, device drivers, OS kernels, and embedded applications. Designed to significantly reduce the time it takes to debug a system, the ITP can help you improve the functionality and performance of your product while minimizing staff and staff hours.



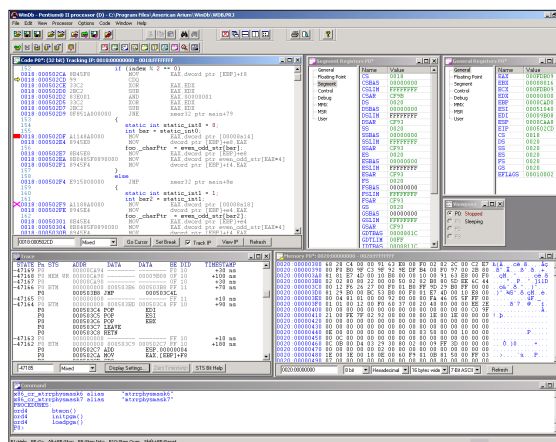
design and debug. The 32-bit application runs on Microsoft® Windows® 95/98/NT/2000.

WinDb is used with all American Arium probes and emulators. Because we designed and developed the software specifically for the equipment, the tight integration of the hardware and software gives you the most robust debug interface on the market today. Easy to install and use, WinDb has IA-32- and IA-64-specific features that cannot be found in any other debugger. You can step through mode changes, set breakpoints in out-of-context address space, and view fly-over addresses as never before.

American Arium has forged a synergistic association with Intel Corporation, creating a strong working relationship with the chip maker. With privileged access to early silicon, our debugging tools support most Intel processors, including the Intel® Pentium® 4 processor. And Intel is not only a supplier but a client; they use our emulators to debug their systems. Such a relationship helps ensure the reliability of all of our products, including the COMET ECM-20WF.

COMET ECM-20WF functions include code disassembly, single-stepping, start/stop, breakpoint setup, view and change memory/registers, download code/symbols, scripting, search/replace, and source-level debug, along with instruction trace visibility.

Included with the ECM-20WF is American Arium's WinDb debugging software. The WinDb debugger interface is the company's core technology, designed specifically for high-end Intel Architecture (IA)



WinDb Interface

ECM-20WF Features

- Works in real time
All processor frequencies
- TCP/IP connection means data communication speed over serial connection improves by factor of 10
- Instruction trace visibility
4 BTM messages
- Breakpoints
4 debug register
64 software
SMM entry/exit
Reset
BNC external trigger in/out
- In-line assembly
- Source code/symbolic debug
Boot-loadable OMF-386, DWARF2, Intel Textsym
- Download formats
BIN, OMF-386, ELF32, DOS EXE, Intel Hex
- Address translation
Real
Virtual-86
BigReal
Protected
System Management Mode
- Registers
386
System
Control
Debug
MSRs
Floating point
MMX™ technology
SSE2
- Code and data search and replace
- Multi-processing (SMP) support
- Robust scripting language

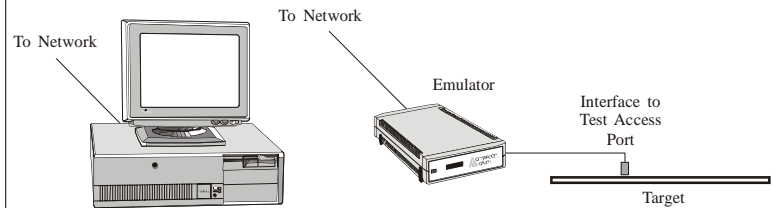
COMET ECM-20WF

Why ECM-20WF

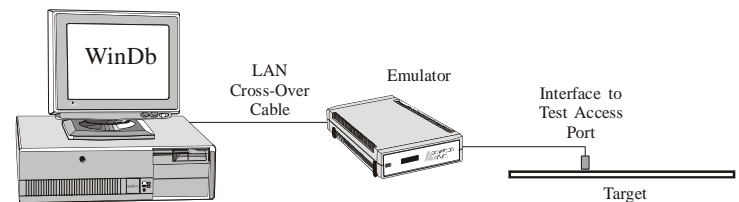
The COMET ECM-20WF offers numerous benefits to the software developer. Perhaps most importantly, this state-of-the-art emulator provides:

1. **Support of Intel Pentium 4 processor.** The COMET ECM-20WF supports the 32-bit Pentium 4 processor at all operating frequencies.
2. **Limited Real Estate Requirements.** The COMET ECM-20WF connection requires relatively little real estate. The emulator connects to a Test Access Port (TAP), more commonly known as a JTAG port, on the target.
3. **Lower Cost Debug Solution.** The COMET ECM-20WF offers exceptional value, providing outstanding performance at a reasonable price.

ECM-20WF BLOCK DIAGRAM WITH NETWORK CONNECTION



ECM-20WF BLOCK DIAGRAM WITH DIRECT CONNECTION



Ordering Information

ECM-20WF	Pentium 4 processor in-target probe. Includes emulator, JTAG interface cable, LAN cable, power supply, WinDb software, manual, and one year STAR-1 service agreement
TAP-WT	Pentium 4 processor TAP adapter*
STAR-1	Annual five-point service agreement

*If you do not have a debug port on your target, an adapter is available. Test access port (TAP) products plug directly into the processor's frontside bus, adding debug capabilities to the target.



PC Host Requirements

- PC host (Intel Pentium processor or higher)
- Microsoft Windows 95/98/NT/2000
- SVGA monitor (1024x768 or higher)
- 20 Mbytes hard disk space
- 16 Mbytes RAM
- 10Base-T connection

Specifications

Environmental:	32-90 degrees F (0-31 degrees C) max 85% humidity
Communications:	10Base-T TCP/IP
Dimensions (in/cm)	(H) 2.25/5.7 (W) 6.2/15.7 (L) 9.6/24.4
BNC trig in:	50 Ohm, 155 ns max. delay
BNC trig out:	50 Ohm, 125 ns max. delay
Test Access Port:	Intel specification
Ship weight (lbs/kg):	7/3.17

The Company

American Arium has been the primary market supplier of Pentium processor ITPs and ICEs since 1992. The company introduced Intel Pentium Pro and Pentium II processor development tools in 1995 and 1996, respectively. In 1998, American Arium introduced tool support for the Pentium II Xeon™ processor. The company currently supports Intel Pentium, Pentium Pro, Pentium II/III, Pentium 4, Pentium II/III Xeon, Celeron™, and Itanium™ processors. The company's mission is to provide timely, superior technical products with an unmatched commitment to service.

Note: Equipment specifications and performance characteristics may change without notice.